Oppenheimer Wolff & Donnelly LLP Telephone: 650-320-4000
Title: Method and Apparatus For Audio Loudness And Dynamics Matching Serial No.: 10/043,591; Filed 1/9/02 Atty Dkt. No.: 21521-300101
Sheet: 1 of 12 AUDIO OUT AUDIO IN AUDIO SUBSYSTEM AUDIO AND/OR DATA STORAGE UNITS 22 NETWORK CONNECTION 20 FIG. 1 -26 INPUT/OUTPUT DEVICES DEVICE CONTROLLERS 8 MEMORY 16 DISPLAY 4 CPU

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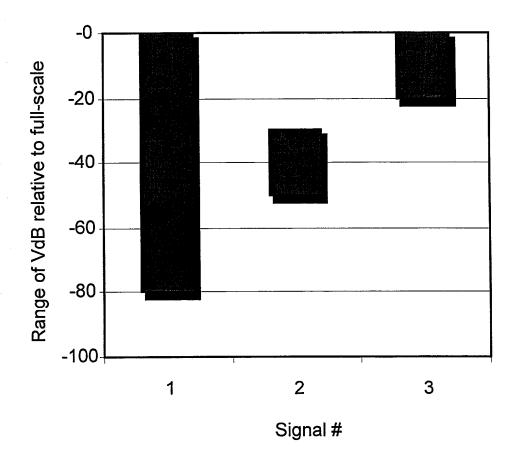


FIG. 2

Oppenheimer Wolff & Donnelly LLP Telephone: 650-320-4000 Title: Method and Apparatus For Audio Loudness And Dynamics Matching Serial No.: 10/043,591; Filed 1/9/02 Atty Dkt. No.: 21521-300101 Sheet: 3 of 12 30 Receive audio track 32 Apply any desired preprocessing Obtain loudness values for frames 36 Apply weighting factor to loudness values 38 Aggregate weighted loudness values to obtain overall value Compared overall

FIG. 3

loudness value with desired loudnes value

Apply gain to audio track based on comparison

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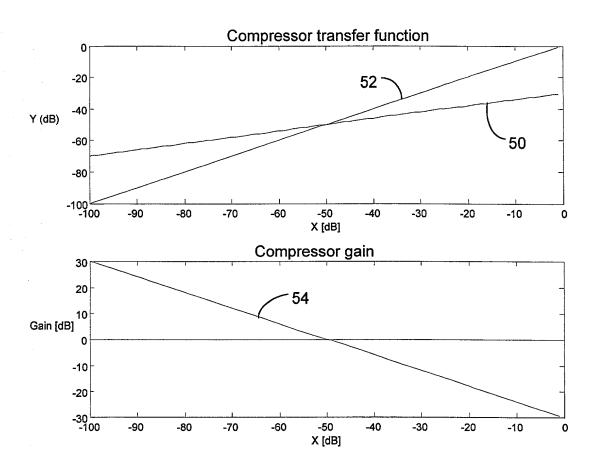


FIG. 4

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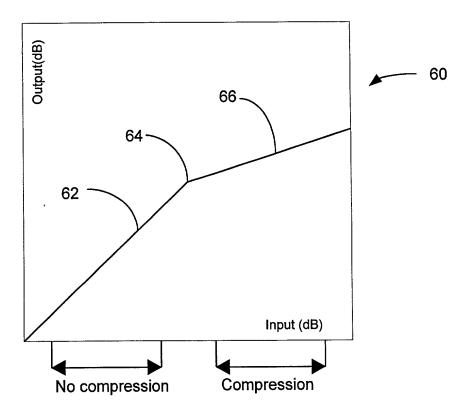


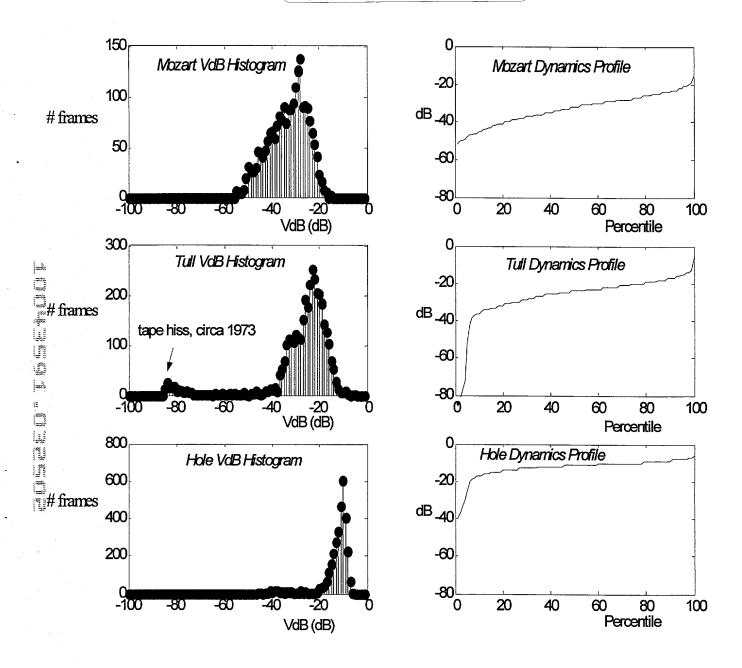
FIG. 5

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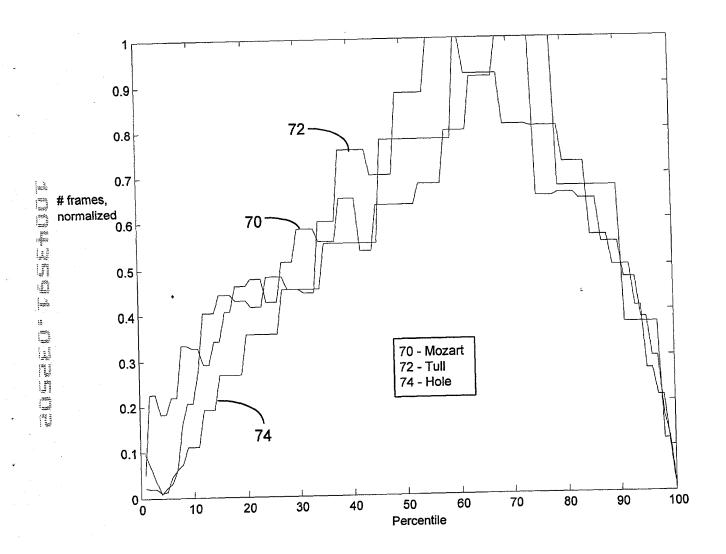


FIG. 7

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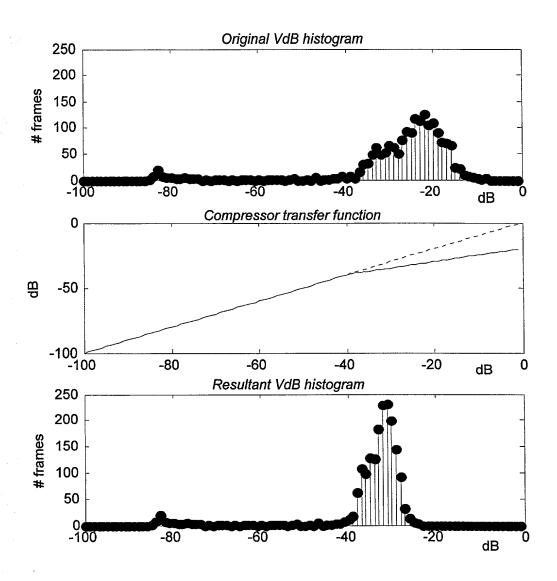


FIG. 8

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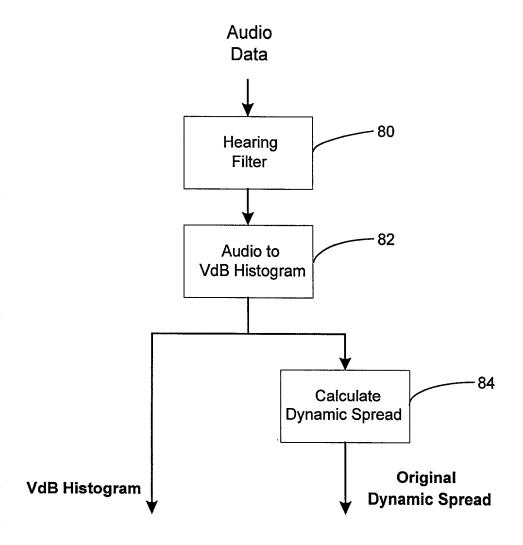


FIG. 9

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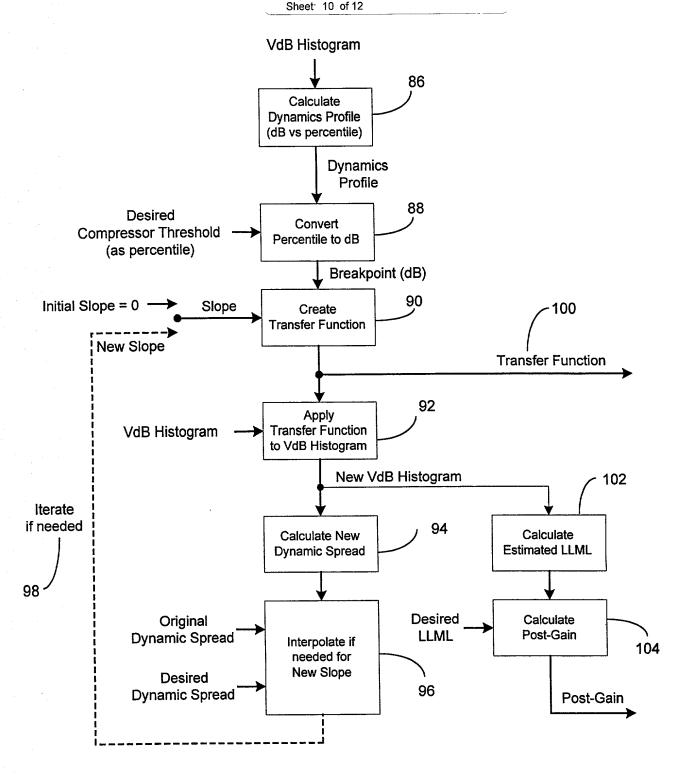
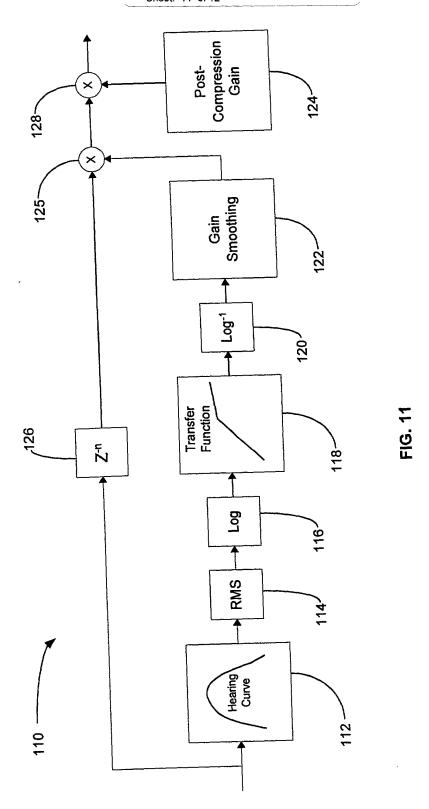


FIG. 10

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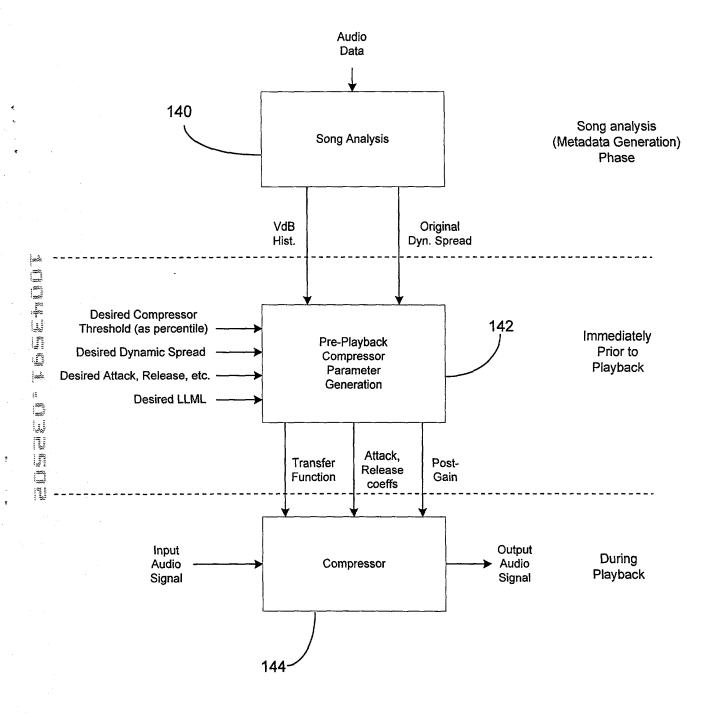


FIG. 12